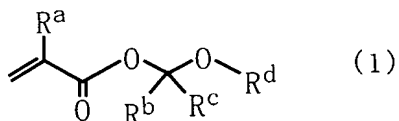


CLAIMS

1. An unsaturated carboxylic acid hemiacetal ester represented by the following formula (1);



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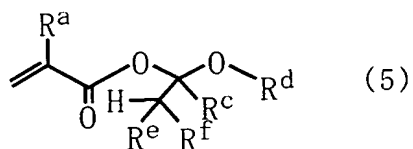
wherein R^a is a hydrogen atom, a halogen atom, an alkyl group of carbon number 1 to 6 or a haloalkyl group of carbon number 1 to 6, R^b is a hydrocarbon group having a hydrogen atom at a first position, R^c is a hydrogen atom or a hydrocarbon group and R^d is an organic group having a cyclic skeleton.

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2. An unsaturated carboxylic acid hemiacetal ester according to Claim 1, wherein a cyclic skeleton in R^d is a lactone skeleton or a non-aromatic polycyclic skeleton.

3. A process of producing an unsaturated carboxylic acid hemiacetal ester, wherein the unsaturated carboxylic acid hemiacetal ester represented by the following formula (5);

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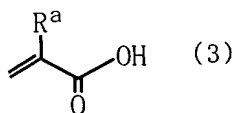


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wherein R^a is a hydrogen atom, a halogen atom, an alkyl group of carbon number 1 to 6 or a haloalkyl group of carbon number 1 to 6, R^c is a hydrogen atom or a hydrocarbon group, R^d is an organic group having a cyclic skeleton and each of R^e and R^f

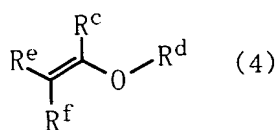
is a hydrogen atom or a hydrocarbon group;

is obtained by allowing an unsaturated carboxylic acid represented by the following formula (3);



5 wherein R^a is a hydrogen atom, a halogen atom, an alkyl group of carbon number 1 to 6 or a haloalkyl group of carbon number 1 to 6;

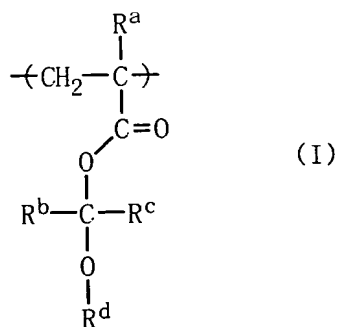
to react with a vinyl ether compound represented by the following formula (4);



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wherein R^c is a hydrogen atom or a hydrocarbon group, R^d is an organic group having a cyclic skeleton and each of R^e and R^f is a hydrogen atom or a hydrocarbon group.

4. A polymeric compound having a repeated unit represented
15 by the formula (I);



wherein R^a is a hydrogen atom, a halogen atom, an alkyl group

of carbon number 1 to 6 or a haloalkyl group of carbon number 1 to 6, R^b is a hydrocarbon group having a hydrogen atom at a first position, R^c is a hydrogen atom or a hydrocarbon group and R^d is an organic group having a cyclic skeleton.

5 5. A polymeric compound according to Claim 4, further having a repeated unit corresponding to at least one monomer selected from a monomer having a lactone skeleton, a monomer having a cyclic ketone skeleton, a monomer having an acid anhydride group and a monomer having an imide group; provided that except for
10 a repeated unit represented by the formula (I).

6. A polymeric compound according to Claim 4 or Claim 5, further having a repeated unit corresponding to at least one monomer selected from a monomer having a hydroxyl group, a monomer having a mercapto group and a monomer having a carboxyl
15 group.

7. A photoresist resin composition containing at least a polymeric compound described in any one of Claim 4 to Claim 6 and a photo-acid generator.

8. A process of producing a semi-conductor comprising steps
20 of coating a photoresist resin composition described in Claim 7 on a base or substrate to form a resist film and forming a pattern through exposure and development.